

WHAT IS CLAIMED IS:

- 1 1. An image processing apparatus, comprising:
2 a port configured to receive a portable data storage device having a
3 memory configured to store a collection of image data and a digital label including
4 a plurality of display elements each capable of presenting one of at least two
5 possible colors;
6 a label composer operable to select at least one image in a collection of
7 image data being stored in the memory of a portable data storage device received
8 in the port as representative of the image data collection; and
9 a print module coupled to the port and the label composer and operable to
10 selectively configure the display elements in the digital label of the portable data
11 storage device received in the port to print at least one image respectively
12 corresponding to the at least one representative image selected by the label
13 composer.
- 1 2. The apparatus of claim 1, wherein the label composer is operable to
2 drive the print module to print a reduced-resolution image of a higher resolution
3 image being stored in the memory of the portable data storage device received in
4 the port.
- 1 3. The apparatus of claim 1, wherein the label composer selects the at
2 least one representative image based on time stamp data associated with the
3 collection of image data being stored in the memory of a portable data storage
4 device received in the port.
- 1 4. The apparatus of claim 1, further comprising a user interface
2 configured to present to a user images corresponding to the collection of image
3 data being stored in the memory of the portable data storage device received in
4 the port.
- 1 5. The apparatus of claim 4, wherein the user interface is configured to
2 present for selection by the user a sequence of images corresponding to the image
3 data being stored in the memory of the portable data storage device received in
4 the port.

1 6. The apparatus of claim 1, wherein the label composer is operable to
2 select the at least one representative image before image data is stored in the
3 memory of the portable data storage device received in the port.

1 7. The apparatus of claim 1, wherein the label composer is operable to
2 select the at least one representative image after image data has been stored in the
3 memory of the portable data storage device received in the port.

1 8. The apparatus of claim 1, further comprising an optical lens and an
2 image sensor for capturing images received through the optical lens.

1 9. A machine-implemented image processing method, comprising:
2 selecting at least one image in a collection of image data being stored in a
3 portable data storage device as representative of the image data collection, the
4 portable data storage device having a memory configured to store the collection of
5 image data and a digital label including a plurality of switchable display elements
6 each capable of presenting one of at least two possible colors; and
7 selectively orienting the display elements in the digital label of the portable
8 data storage device to print at least one image respectively corresponding to the at
9 least one selected representative image.

1 10. The method of claim 9, further comprising printing on the digital
2 label a reduced-resolution image of a higher resolution image being stored in the
3 memory of the portable data storage device.

1 11. The method of claim 9, wherein the at least one representative
2 image is selected based on time stamp data associated with the collection of
3 image data being stored in the memory of the portable data storage device.

1 12. The method of claim 9, further comprising presenting to a user
2 images corresponding to the collection of image data being stored in the memory
3 of the portable data storage device.

1 13. The method of claim 12, wherein a sequence of images
2 corresponding to the image data being stored in the memory of the portable data
3 storage device is presented for selection by the user.

1 14. An image processing apparatus, comprising:
2 means for selecting at least one image in a collection of image data being
3 stored in a portable data storage device as representative of the image data
4 collection, the portable data storage device having a memory configured to store
5 the collection of image data and a digital label including a plurality of switchable
6 display elements each capable of presenting one of at least two possible colors;
7 and
8 means for selectively orienting the display elements in the digital label of
9 the portable data storage device to print at least one image respectively
10 corresponding to the at least one selected representative image.

1 15. The apparatus of claim 14, further comprising means for printing on
2 the digital label a reduced-resolution thumbnail of an image being stored in the
3 memory of the portable data storage device.

1 16. The apparatus of claim 14, further comprising means for presenting
2 to a user images corresponding to the collection of image data being stored in the
3 memory of the portable data storage device.

1 17. A machine-readable medium storing machine-readable instructions
2 for causing a machine to:
3 select at least one image in a collection of image data being stored in a
4 portable storage data device as representative of the image data collection, the
5 portable data storage device having a memory configured to store the collection of
6 image data and a digital label including a plurality of switchable display elements
7 each capable of presenting one of at least two possible colors; and
8 selectively orient the display elements in the digital label of the portable
9 data storage device to print at least one image respectively corresponding to the at
10 least one selected representative image.

1 18. The medium of claim 17, further comprising machine-readable
2 instructions for causing the machine to print on the digital label a reduced-
3 resolution thumbnail of an image being stored in the memory of the portable data
4 storage device.

1 19. The medium of claim 9, further comprising machine-readable
2 instructions for causing the machine to present to a user images corresponding to
3 the collection of image data being stored in the memory of the portable data
4 storage device.

1 20. A data storage system, comprising:
2 a memory configured to store a collection of image data;
3 a digital label including a plurality of display elements each capable of
4 presenting one of at least two possible colors;
5 a label composer operable to select an image in a collection of image data
6 stored in the memory as an image representative of the image data collection;
7 a label adapter coupled to the digital label and operable to selectively
8 configure the display elements in the digital label to present at least one image
9 corresponding to the representative image selected by the label composer; and
10 a portable housing configured to plug into a port of an external device, the
11 portable housing containing the memory and the label adapter, and having a
12 surface supporting the digital label.

1 21. The system of claim 20, wherein the label composer is operable to
2 drive the label adapter to present on the digital label a reduced-resolution
3 thumbnail of an image stored in the memory.

1 22. The system of claim 20, wherein the label composer selects the at
2 least one representative image based on time stamp data associated with the
3 collection of image data stored in the memory.

1 23. The system of claim 22, wherein the label composer selects as a
2 representative image an image corresponding to image data in the collection
3 associated with a latest time stamp.

1 24. The system of claim 22, wherein the label composer selects the at
2 least one representative image based on user input.

1 25. The system of claim 24, wherein the label adapter is configured to
2 present on the digital label images corresponding to images in the image data
3 collection stored in the memory.

1 26. The system of claim 25, further comprising a user input, wherein
2 the label composer selects an image selected by the user through the user input as
3 a representative image.

1 27. The system of claim 26, wherein the label adapter is configured to
2 present for selection by the user a sequence of images corresponding to the image
3 data stored in the memory.

1 28. The system of claim 27, wherein the sequence of images presented
2 by the label adapter is ordered in accordance with time stamp data associated
3 with the image data stored in the memory.

1 29. The system of claim 20, wherein the housing contains the label
2 composer.

1 30. The system of claim 20, further comprising an external power
2 source comprising a housing configured to connect to the portable housing and
3 containing a power supply and the label composer.